

What is claimed is:

1. A flexible mold comprising a mold layer having on the surface thereof a groove-pattern of specified shape and size, wherein said mold layer comprises a lithium salt of an organic fluorine compound as an antistatic agent.
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2. A flexible mold according to claim 1, wherein said lithium salt of an organic fluorine compound is at least one lithium salt selected from the group consisting of $\text{CF}_3\text{SO}_3\text{Li}$, $(\text{C}_n\text{F}_{2n+1}\text{SO}_2)_2\text{NLi}$ wherein n is an integer of 1 or 2, $\text{LiSO}_3\text{C}_2\text{F}_4\text{SO}_3\text{Li}$,
10 $\text{CF}_3\text{CO}_2\text{Li}$, $\text{C}_4\text{F}_9\text{SO}_3\text{Li}$, $(\text{CF}_3\text{CO})_2\text{NLi}$, $(\text{CF}_3\text{SO}_2)_3\text{CLi}$, $(\text{CF}_3\text{SO}_2)_2\text{CFLi}$.
3. A flexible mold according to claim 1 or 2, wherein said lithium salt of an organic fluorine compound is blended in an amount of 0.01 to 5% by weight relative to the amount of the resin material forming said mold layer.
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4. A flexible mold according to any one of claims 1 to 3, wherein said mold layer is transparent.
5. A flexible mold according to any one of claims 1 to 4, wherein said mold layer
20 consists of a hardened product of a curable resin material.
6. A flexible mold according to claim 5, wherein said curable resin material is selected from the group comprising a photocurable monomer, a photocurable oligomer, and mixtures thereof.
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7. A flexible mold according to claim 6, wherein said curable resin is selected from the group comprising an acrylic monomer, an acrylic oligomer, and mixtures thereof.
8. A flexible mold according to claim 7, wherein said curable resin is selected from
30 the group comprising a (meth)acrylate monomer, a(meth)acrylate oligomer, and mixtures thereof.

9. A flexible mold according to claim 8, wherein said (meth)acrylate monomer and/or oligomer are/is selected from the group consisting of urethane (meth)acrylate, polyester (meth)acrylate, polyether (meth)acrylate.

5 10. A flexible mold according to any one of claims 1 to 9, wherein said mold layer has a thickness of 5 to 1000 µm.

11. A flexible mold according to any one of claims 1 to 10, wherein the mold further comprises a support carrying said mold layer.

10 12. A flexible mold according to any one of claims 1 to 11, wherein the mold is used for molding ribs of a back panel for a plasma display panel.

15 13. A flexible mold according to claims 1 to 12, wherein said lithium salt of an organic fluorine compound is not decomposed thermally at temperature below 200 °C during the course of molding process using said mold.

20 14. A flexible mold according to any one of claims 1 to 13, wherein said groove pattern of the mold layer is a straight pattern composed of a plurality of grooves arranged at a constant spacing generally in parallel to each other.

15. A flexible mold according to any one of claims 1 to 14, wherein said groove pattern of the mold layer is a lattice-shaped pattern composed of a plurality of grooves arranged so as to cross at a constant spacing generally in parallel to each other.

25 16. A flexible mold according to any one of claims 1 to 15, wherein, in said mold layer, said groove pattern is defined by plane portions and grooves, and wherein said groove has depth of 100 to 400 µm and width of 50 to 250 µm as measured at the surface of said mold layer.

30 17. A flexible mold according to claim 11, wherein said support is a film of plastic material.

18. A flexible mold according to claim 17, wherein said plastic material is at least one plastic material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, stretched polyethylene, polycarbonate, and triacetate.

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19. A flexible mold according to any one of claims 11, 17 to 18, wherein said support has a thickness of 50 to 500 µm.

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20. A method of manufacturing a flexible mold which has a mold layer provided on the surface thereof with a groove pattern having specified shape and size, said method comprising the steps of:

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forming a layer of a photocurable resin material by coating a photocurable resin material containing a lithium salt of an organic fluorine compound as an antistatic agent to a predetermined film thickness on a metal master pattern having on the surface thereof a protrusion pattern in shape and size corresponding to said groove pattern of said mold;

laminating a transparent support consisting of a film of plastic material on said metal master pattern to thereby form a laminate of said metal master pattern, said layer of a photocurable resin material, and said support;

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irradiating said laminate with light from the side of the support to harden said layer of photocurable resin material; and

releasing said mold layer formed by the hardening of said photocurable resin material together with said support from said metal master pattern.

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21. A method of manufacturing a fine structure having a protrusion pattern of specified shape and size on the surface of a substrate, said method comprising the steps of:

providing a flexible mold having a mold layer which has on the surface thereof a groove pattern of shape and size corresponding to said protrusion pattern, said mold layer containing a lithium salt of an organic fluorine compound as an antistatic agent;

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placing a curable molding material between said substrate and said mold layer of said mold, and filling said molding material into said groove pattern of the mold;

hardening said molding material and forming a fine structure consisting of said substrate and the protrusion pattern integrally connected thereto in one unit; and

removing said fine structure from the mold.

22. A method of manufacturing a fine structure according to claim 21, wherein said fine structure is a back panel for a plasma display panel.

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